

Exploring the frontiers of accessibility on Mac OS X

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Accessibility is far too often focused on the basics, such as educational tasks, web browsing and email. However, even users with multiple impairments can do so much more if only given the right tools and shown the way. At AssistiveWare, we like to explore the frontiers of accessibility on Mac OS X together with users and AT specialists. Based on case studies and quantitative research we have seen how people with a variety of physical, language and vision impairments achieve amazing things thanks to Mac OS X and the AssistiveWare products. We offer six applications:

KeyStrokes is an advanced on-screen keyboard that provides full keyboard emulation (including function keys, eject, and volume keys) and allows you to type anywhere, including into Mac OS X Tiger's Dashboard. Additionally, it provides one of the most powerful multilingual word prediction system on the market. KeyStrokes also contains system-wide dwell clicking for users who can move the mouse but find clicking difficult.



SwitchXS is a scanning on-screen keyboard that works with one or more switches and can emulate all the functions of a standard keyboard and mouse. SwitchXS provides full access to Mac OS X. There are many user-definable settings to optimize it for each user's needs. With the included LayoutKitchen application, user and application specific scanning panels can be designed with colored buttons, text and images.



Proloquo is an augmentative and alternative communication (AAC) and speech feedback solution. It includes everything you need to easily construct your own, personalize vocabulary by dragging and dropping commonly used phrases in topical lists. Proloquo can be combined with LayoutKitchen for people who prefer to make picture based communication panels. A license for the Infovox iVox voices in one language is included.



LayoutKitchen is a keyboard, scan panel and communication panel editor that can be used to further adapt and customize the other solutions. With it you can design custom panels and keyboards with colored buttons, text in any size, photos and images. You can use your own images and photos or buy the PCS collection for LayoutKitchen: over 8000 fully-resizable Picture Communication Symbols from Mayer-Johnson.



VisioVoice provides access to Mac OS X for people with vision impairments. It includes a selection and document reader that can highlight words as they are being spoken and has no problem handling PDF, Word, RTF documents. It includes a system-wide talking interface, typing echo and text and image zoom windows, large cursors, export of text to audio files and iPod. VisioVoice also includes a license for the Infovox iVox voices.



Infovox iVox provides natural-sounding voices in a range of languages, ready to use with any Mac OS X application, including Apple's VoiceOver screen reader. The voices can be used with all the AssistiveWare software, but also with Kurzweil 3000 (version 3.0.4 and later) and TextHelp Read and Write Gold (version 2.1 and later), Adobe Acrobat, Preview, Microsoft Word, TextEdit, Mail and more...





















GhostReader is an affordable multilingual document and selection reader with sentence and word highlighting that can convert text to iPod and iPhone-ready audio files. It can read selected text from any application or open Word and PDF files directly. It can be used by dyslexic users, struggling readers and also for proof-reading or to save time by converting reading material to audio for listening on the iPod. High quality voices that can be used only with GhostReader are included. A bundle with Infovox iVox is optional.



With one or more of the AssistiveWare applications and Mac OS X there are no reasons why a switch or head pointer user should be limited to specially adapted games or, for example, dedicated switch accessible drawing programs. Persons who cannot use a mouse and/or keyboard can have full access to the computer, play the latest games, edit videos, write books, do professional design work and much more. All, while using the same professional software and all the standard productivity software such as Microsoft Word, Excel, Mail, iChat, and Safari.

The AssistiveWare Newsletter at <http://www.assistiveware.com/newsletter.php> is a good show case of what people with various disabilities are able to do with the right tools. This newsletter is not about our products but is a platform for users to share experiences and explore the frontiers of accessibility. It is entirely created, written, designed and edited by Mac OS X users with disabilities.

Matching needs and solutions							
<i>Problems with</i>	KeyStrokes	SwitchXS	Proloquo	LayoutKitchen	VisioVoice	Infovox iVox	GhostReader
Physical keyboard							
Moving a mouse							
Clicking the mouse							
Speaking							
Writing							
Reading							
Seeing							

In many cases, the AssistiveWare products will need to be combined with specialized hardware. KeyStrokes works with all USB mouse emulating devices that are compatible with Mac OS X and SwitchXS works with all USB switch interfaces currently on the market. For an overview of tested switch interfaces, see <http://www.assistiveware.com/switchaccess.php>. In some cases, you will also want to combine the software from AssistiveWare with build-in accessibility feature of Mac OS X such as the Zoom feature for people with vision impairments or Apple's VoiceOver screen reader.

In the end, whatever your access method and access program, the aim is to provide independence on the computer and provide complete access to all software on the computer, whether that be the latest educational titles, the coolest games, or the most powerful creative software. To give that kind of full access, the AssistiveWare products are designed in close collaboration with actual users and continue to be improved to meet the needs of more people. To see what this means in practice check out the videos at <http://www.frontiersofassistivetechology.com>